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ABSTRACT

This paper describes the results of reengineering the IS (information systems) MBA (Master's of Business Administration) core course in a private university (Dowling College, New York). The focus of the course is the use of information technology from the perspective of management. In an effort to keep the course material as current as possible, the use of a textbook was eliminated and was replaced with a number of different assignments. The assignments require the students to become active learners instead of passively listening to lectures. The major assignment in the course is the Technology Watch; the purpose of this assignment is to learn how to investigate, evaluate, implement, and manage new information technologies and to understand their potential effects on business organizations. Other assignments focus on PC selection, the Internet, and software tools. In addition, students keep a learning and evaluation log. The course is continually evolving based on student feedback and emerging technologies. (Contains 11 references.) (AEF)

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THE IS MBA CORE COURSE: FOSTERING STUDENT CREATIVITY WHILE ENHANCING ACTIVE LEARNING

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This paper describes the results of re-engineering the IS MBA core course in a private Northeastern university. In an effort to keep the course material as current as possible, the use of a textbook was eliminated and was replaced with a number of different assignments. The assignments required the students to become active learners instead of passively listening to lectures. The course is continually evolving based on student feedback and emerging technologies.

INTRODUCTION

Teaching Information Systems courses places special demands on IS faculty to continuously update their curriculum. While this is true in graduate as well as undergraduate courses, it is vital in the core IS course in the MBA. At many institutions that offer an MBA, students are required to take only one IS course. This may be the sole IS course that students will take at the graduate level.

While a lot of excitement is often associated with the potential value of Information Technologies, the benefits for a specific business may be nonexistent. Numerous examples exist in the literature where Information Systems have not been successfully implemented (Okolica and Stewart, 1996; Stewart, 1992; Manross and Rice, 1986; Markus, 1983). An objective of the core course is to teach students about the potential benefits, dangers and limitations of IT (Silver, Markus, and Beath, 1995).

Individuals retain more information when they are active learners (Shnell, 1986; Wittrock, 1986). Students' roles and responsibilities in teaching and learning decisions are increasing (Godfrey, 1995). Group problem solving and collaborative learning enable students to reveal different views, to come to a consensus, and to develop a more comprehensive understanding of the subject matter. Additionally, students express

satisfaction with the collaborative learning environment, describing the process as a "positive emotional learning climate." (Alavi, Wheeler, and Valacich, 1995). Collaborative learning improves retention (Keeler and Anson, 1995). Through collaborative learning, students learn to take advantage of each team member's expertise and also experience first-hand the problems of coordinating team effort (Goyal, 1995/1996).

In this paper we share some of the ideas that worked for us in integrating two primary objectives of the core IS course in the MBA: keeping the content of the course current while actively involving the students in the learning process.

STUDENTS' BACKGROUND

At Dowling College students can choose from among five different MBA concentrations: Banking and Finance, Total Quality Management, Aviation Management, General Management, and Public Management. Each concentration requires students to take the core IS course, Information Technologies for Managers.

The students come to the course with varied backgrounds. Most of them have taken one or two general IS courses as an undergraduate and currently work with personal productivity packages. Some of the students work in entry

level or clerical type jobs while others are in middle or upper level management. One or two students usually work in IS or related fields. Class size varies from 15 to 25 students.

THE COURSE

The focus of the course is the use of Information Technology from the perspective of management. Managers need to think about how to use IT to leverage resources for businesses and to help employees function more effectively. However, IT innovations are often very costly and not always successful.

Technology Watch

The major assignment in the course is the Technology Watch. The purpose of this assignment is to learn how to investigate, evaluate, implement, and manage new Information Technologies and to understand their potential effects on business organizations.

The assignment is presented to the students at the first class session. They are given two weeks to decide which topic they wish to report on. Students work on this assignment in groups of two or three.

Students are required to make an oral presentation to the class. The presentation usually lasts approximately twenty to thirty minutes. By making an oral presentation to the class, students learn to speak in front of a group while at the same time, the rest of the class is learning about current Information Technologies. Students are taught presentation skills and are required to use PowerPoint for their presentations

The issues that students address in their presentations include:

- ♦ Describing the IT.
- ♦ Discussing the advantages of using the technology.
- ♦ Discussing the technologies' effects on productivity.
- ♦ Examining if there are any problems with the technology.
- ♦ Describing how different companies are using the technology.
- ♦ Identifying the types of organizations most likely to benefit from the technology.
- ♦ Describing the job opportunities regarding the technology.
- ♦ Identifying the critical success factors in implementing the IT.
- ♦ Discussing the future for this technology.

Among the topics that students have reported on are:

Electronic Commerce (digital cash, forms of cash and credit, authorization, verification, transaction processing, legal and consumer issues, security issues, smart cards, etc.)

Internet Security (identifying, preventing, and controlling unauthorized access and modification, firewalls, encryption, cybercops, outages, insurance, etc.)

Commercial on-line services and internet access providers (access options, direct connections, ISP's, commercial on-line services, ISDN, ADSL, tips for picking an ISP, leading ISP's, compare and contrast attributes, costs, customer base, policies, etc.)

Corporate intranets and extranets (what they are, hardware requirements, information available on, benefits of, must include extensive case studies).

Alternative work sites (virtual office, road warriors, telecommuting centers, who uses, impact, future)

Groupware and meeting support software (Lotus Notes, GroupSystemV, Explorer, impact of Internet etc.)

Geographic information systems (including global positioning systems and applications in areas such as transportation, travel, military, etc.)

Voice recognition systems (both generic and trainable systems, business applications, etc.)

Web sites (what makes a good and bad Web site, creating and managing company and personal web sites, costs/revenue)

The class is encouraged to react to and evaluate the presentations. Many students will bring in relevant articles on the appropriate evening. Other students are able to relate the topic to their own businesses. Lively discussions often ensue. Through the Technology Watch assignment, students take responsibility for sharing recent findings regarding emerging Information Technologies.

PC Selection

A second assignment is the PC Selection. In the past, when the majority of students did not know what megahertz, RAM, gigabytes, etc. were, all students were required to go out and price a PC. By speaking to actual salespeople, students were forced to understand and use the correct terminology. This was further reinforced in class. After each student had priced a PC, the class compared the different prices and chose a "best buy".

This assignment changed as more students owned a PC and became familiar with PC hardware terminology. Presently, at the first class session, students complete a short questionnaire regarding their PC background. Based on the questionnaire results, the students are subsequently divided into groups. One group is responsible for comparing desktop machines, both retail and mail order. Each student in the group is asked to go to a store as well as call a mail order vendor. The group then makes a recommendation based on a number of criteria (price, processor, MHz, RAM, warranty, service, etc.). Students in this group have never owned a PC and are totally unfamiliar with the terminology. Having to use these foreign terms is a real learning experience for them. They begin to feel a sense of confidence in their abilities to converse in a technical area.

A second group is responsible for comparing portable PC's, both mail order and retail. Students assigned to this group have never owned a laptop. By completing this assignment, they become familiar with the configuration of a laptop versus a desktop machine. They learn

about active and passive screens, PCMCIA cards, and different pointing devices.

A third group is responsible for researching what is involved in upgrading a PC. This group consists of students who are thoroughly familiar with PC terminology and have owned both desktops and laptops. They are responsible for pricing different components, such as monitors, modems, memory, and ergonomic keyboards. This group will bring to class a laptop and a desktop PC and discuss what is involved in upgrading them. They usually will take apart the desktop PC and identify the motherboard, memory, expansion bays, expansion slots, etc. This enables those students to whom these terms are abstract and somewhat confusing to actually see what we have been talking about.

The last group is required to discuss a current topic related to PC's. This group has had the most experience with PC hardware. They typically include individuals who have upgraded a PC and have owned a PC for a number of years. This group is responsible for discussing the cost of maintaining PC's in organizations. They research the pros and cons of NC's versus PC's. They examine the hype of NC's against the reality.

By working in groups based on PC experience, students are able to learn at their own level. Those who are not familiar with terminology get to use it in real life situations whereas those who are at a more advanced level research the Total Cost of Ownership of PC's in organizations.

Internet

The purpose of the Internet assignment is to learn to use the World Wide Web as a strategic advantage in business. To this end, students are asked to examine their company's Web site and compare it to that of their competitors. They explore ways in which their company can enhance their Web site. They examine Web sites analytically while learning more about their own company. One student commented after examining her company's Web site that this assignment "strengthened my good feelings about my company and the direction it's going in. It made me proud to be an employee of the company."

Students who are not working, or whose companies do not have a Web site, are asked to examine the Web site of a company they wish to work for, analyze the site, and compare it to competitors.

The Internet assignment will continue to evolve as students become increasingly familiar with the Web. At this point, many of our students have never been on the Web or have just used it in a very superficial way. One student indicated that "Before this class, I can honestly admit that I was afraid of trying to use the Internet. I never thought it would be this easy. As a result of this assignment, I purchased a modem and now subscribe to an Internet Service Provider."

An alternative Internet assignment might focus on search engines and using the Web for research purposes. Prepare specific targets on the Web for students to locate. Have them keep a log of their search strategy and of the problems and frustrations they encounter. Then have them discuss their experiences in class in small, informal groups. They can talk about the problems they encountered and their opinions about the search engines they used. Sharing experiences can bring to light ways in which to facilitate using the Web as a research tool.

Software Tools

We believe that graduate students must demonstrate competency in the use of spreadsheets and presentation graphics packages. We require our students to use PowerPoint when presenting their research on the Technology Watch. They are given a very short (five to ten minutes) demonstration of the software after which they learn to use the package on their own. Most of them are surprised at how easy it is for them to learn to use the software. Learning the software on their own gives those students who are intimidated by the world of computers a growing sense of self confidence in their ability to teach themselves different software packages.

This is further reinforced when students are assigned a textbook which guides them through the use of a spreadsheet. At the very last class session, students are required to demonstrate spreadsheet competency. They are asked to

create a spreadsheet that will be useful either at work or at home. Using this spreadsheet, they prepare a demonstration that includes switching between value and formula versions, analyzing spreadsheet data by the use of goal seeking, explaining the difference between absolute and relative cell addressing, and demonstrating the use of a variety of functions.

This assignment permits students to be creative. As one student remarked, "I created a spreadsheet for a project at work that impressed my boss so much that I was promoted. While I had a basic idea of how to use spreadsheets, this assignment forced me to spend the time on developing my skills and relating it to the workplace."

Learning and Evaluation Log

Students are asked periodically to write a short paper reflecting on class presentations, group discussions and assignments. The purpose of this Learning and Evaluation Log is threefold: to encourage students to relate their class experiences to the workplace, to participate in the course design by constantly evaluating assignments and group work, and to develop written communication skills.

Students participate in the design of the course by evaluating specific assignments. Students are encouraged to become creative, strategic learners. Based on student feedback and changing IT, the design for the core IS course is constantly evolving.

Students' comments demonstrate that course objectives have been met. For example, one student commented on being an active learner, "It was not like any course I had ever taken because you could not sit back and just listen, take a test or do a paper; you had to get involved." Another said, "The technology watch presentations left me hungry for more information on what makes systems successes or failures."

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